realtone®

REALTONE ELECTRONICS CORPORATION

MODEL 6201

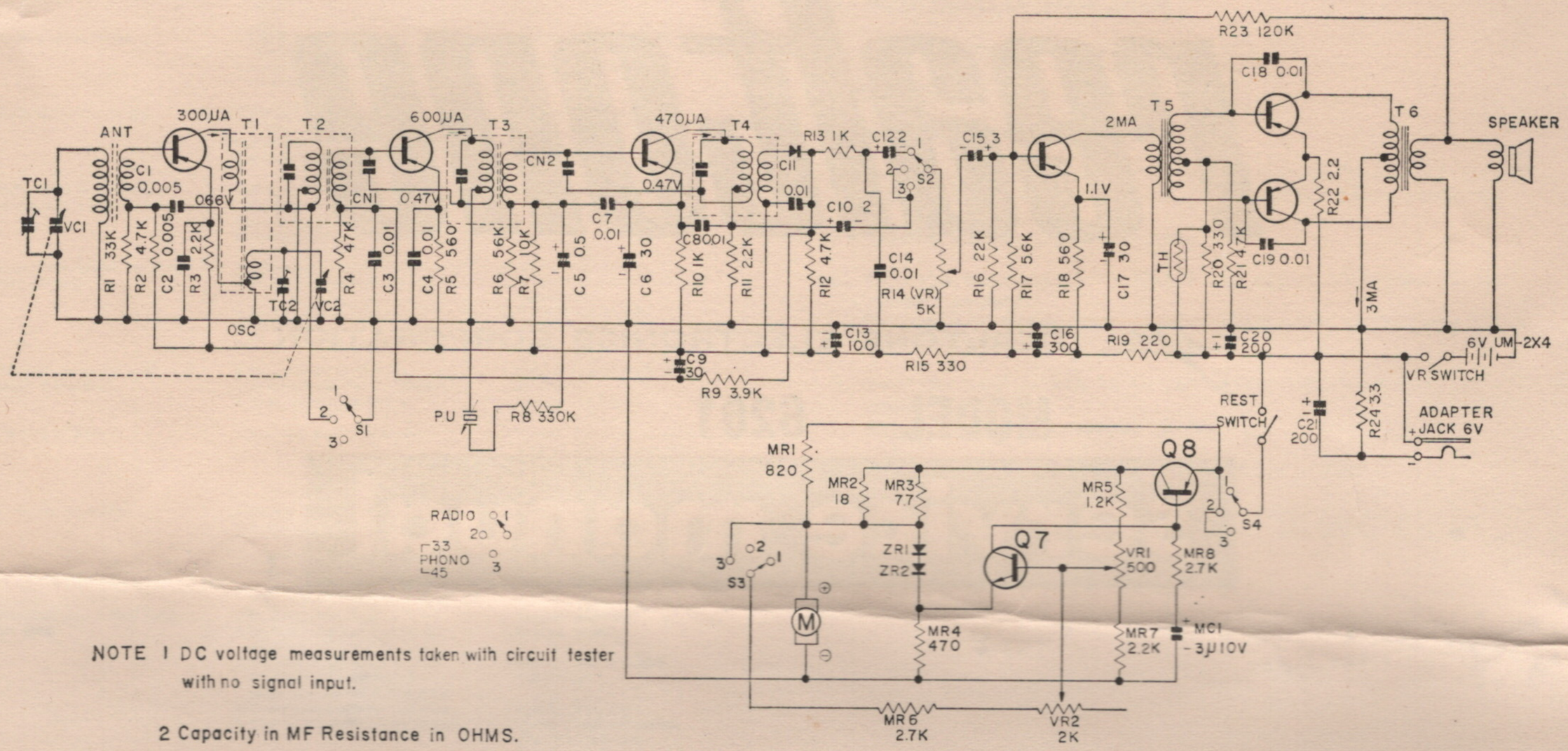
service manual

SPECIFICATIONS

Circuit	8-transistor 3-diode superheterodyne
Frequency Range	AM 535-1605 kc
IF Frequency	455 kc
Sensitivity	50db/m/50mW
Speeds	33-1/3, 45
Motor	DC 6-volt micro-motor with electronic governor
Output Power	400 mW max., 300mW
Turntable	5½″ metallic with rubber Matting
Cartridge	ceramic., 0.7 mil
Adapter Jack	DC 6-Volt input
Power Consumption	600m Wmax.
Power Source	UM-2×4
Speaker	3½″ 8Ω permanent dynamic
Measurements.	293×211×60 (mm)
Weight	1.53 kg

SCHEMATIC DIAGRAM

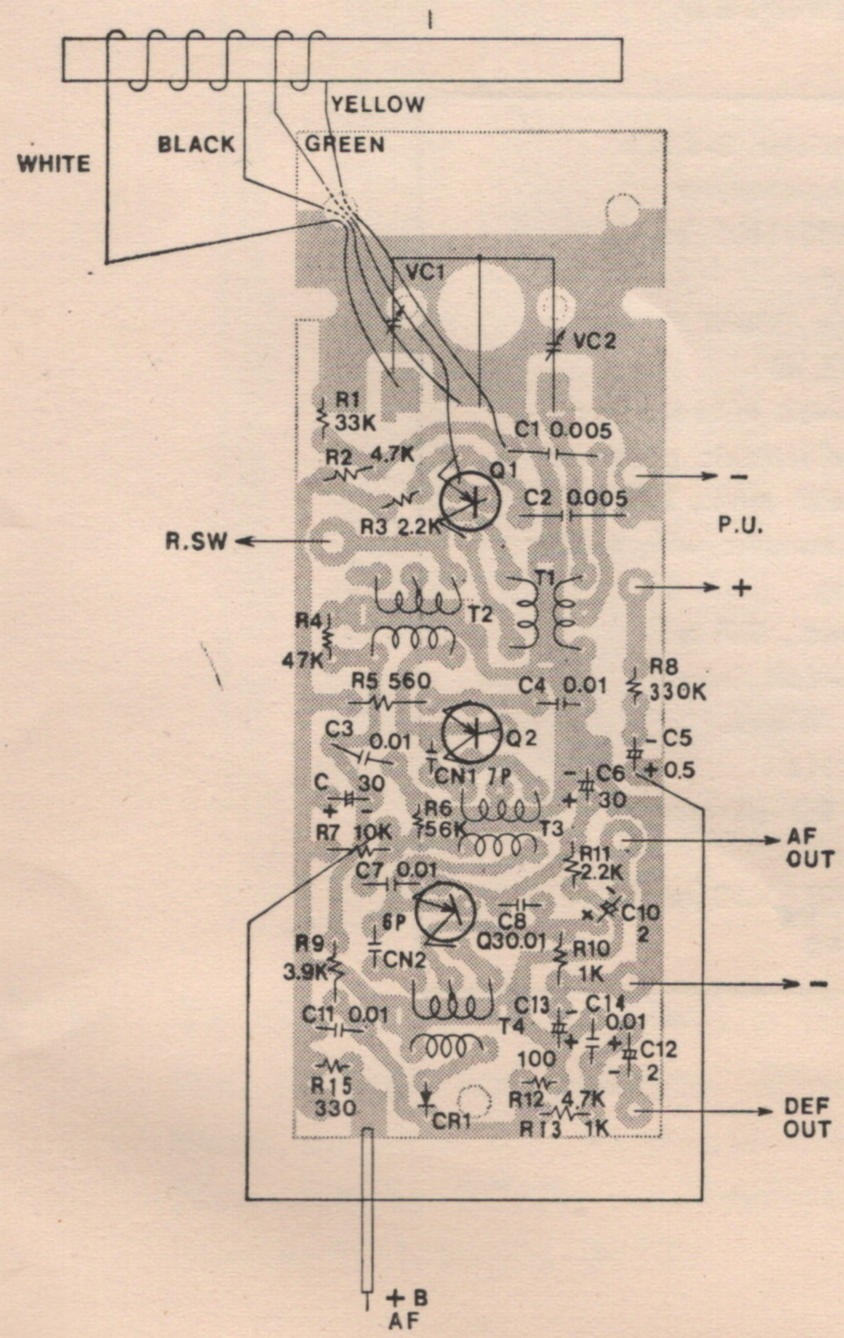
CONV. Q1 | IST-IF Q2 | 2ND-IF&AF.AMP Q3 | DET. CR1 | DRIV. Q4 | POWER OUT Q5, 6



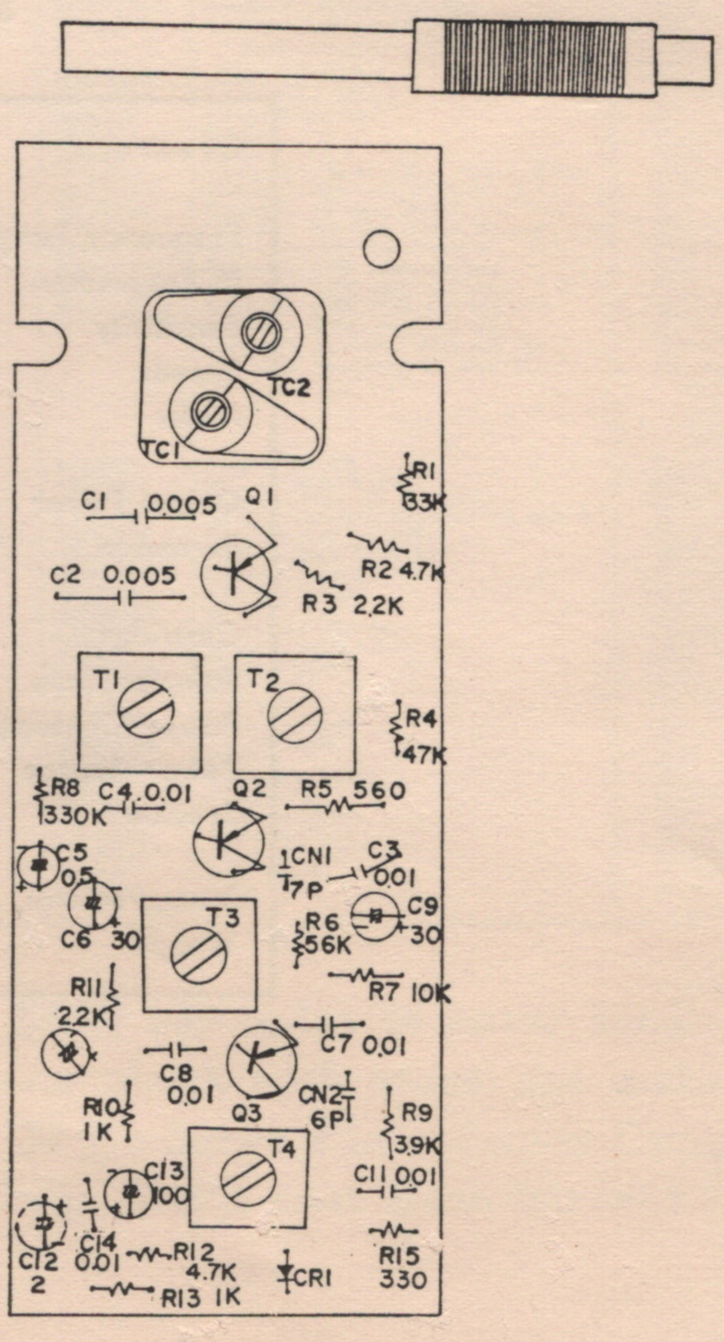
NOTE 1 DC voltage measurements taken with circuit tester with no signal input.

2 Capacity in MF Resistance in OHMS.

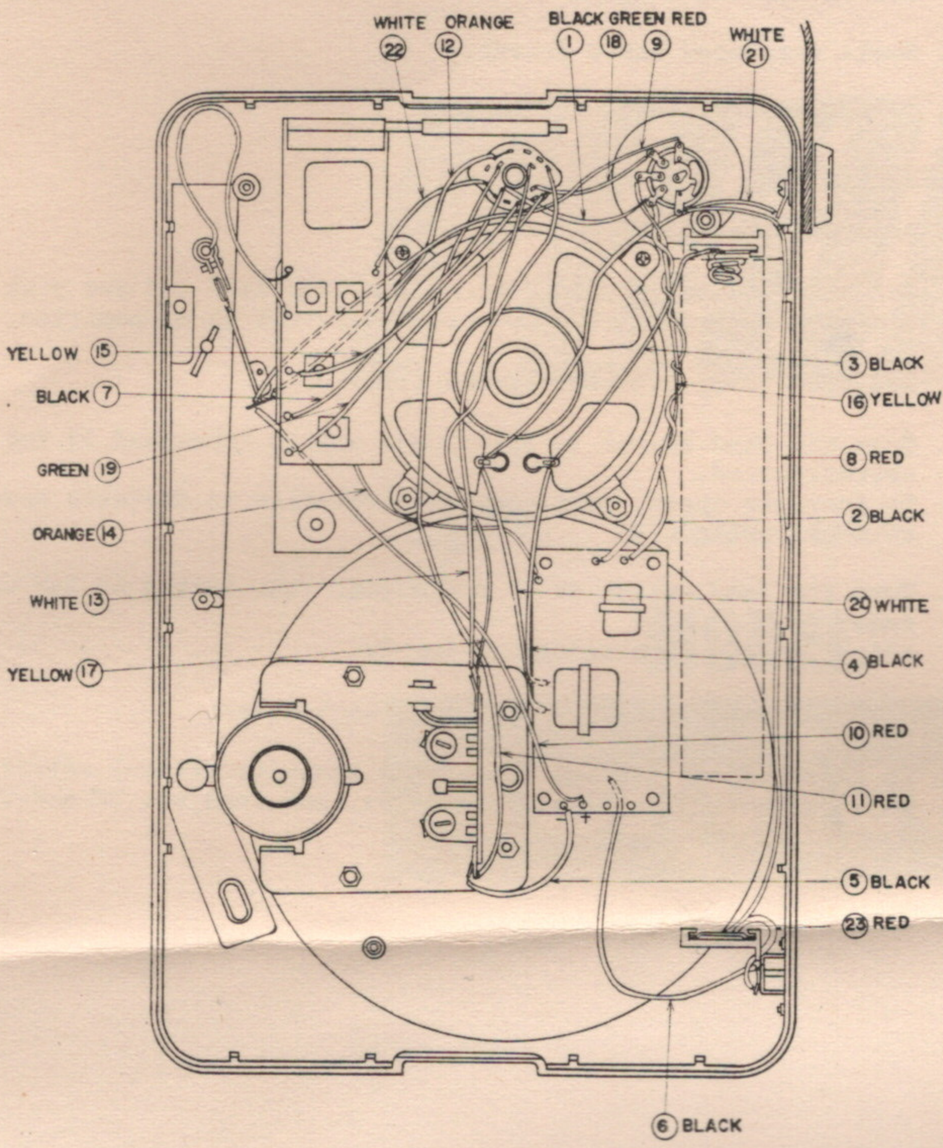
CONV-IF AMP
PRINTED BOARD BOTTOM VIEW



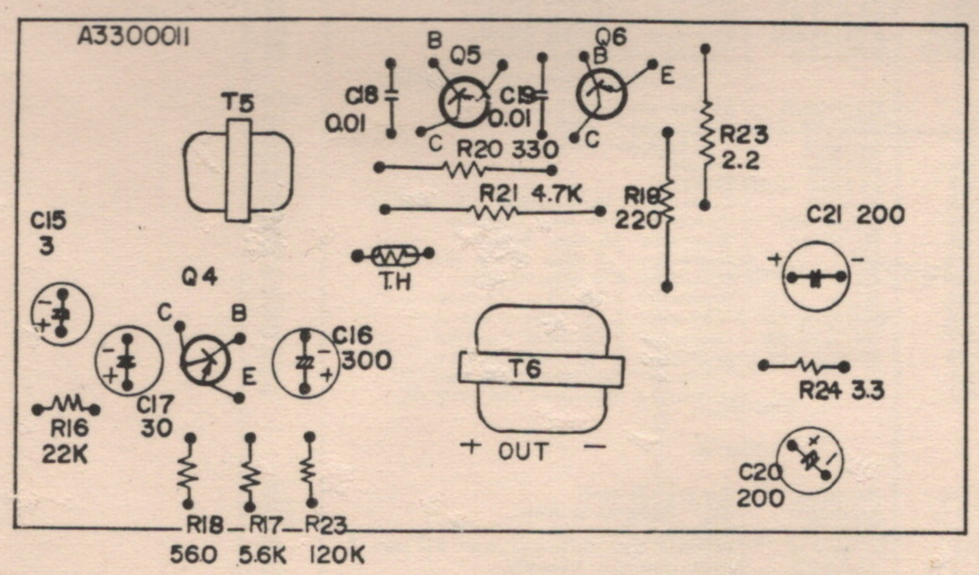
CONV-IF AMP
PRINTED BOARD TOP VIEW



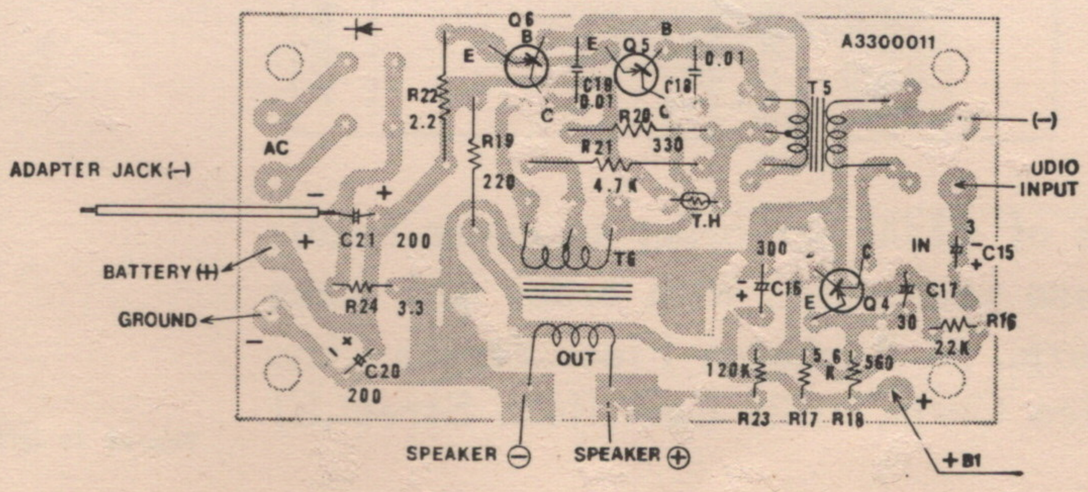
WIRING DIAGRAM



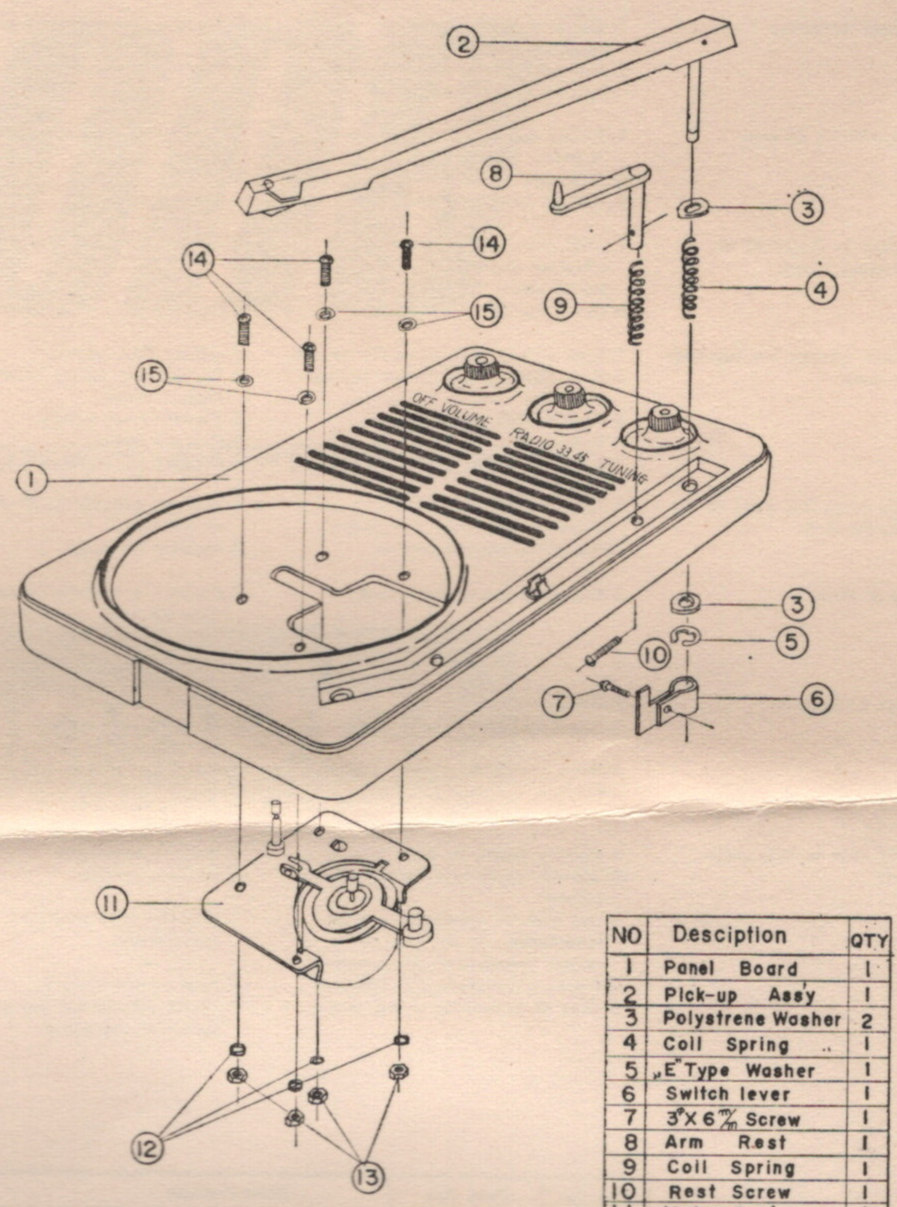
AUDIO AMP
PRINTED BOARD TOP VIEW



AUDIO AMP
PRINTED BOARD BOTTOM VIEW

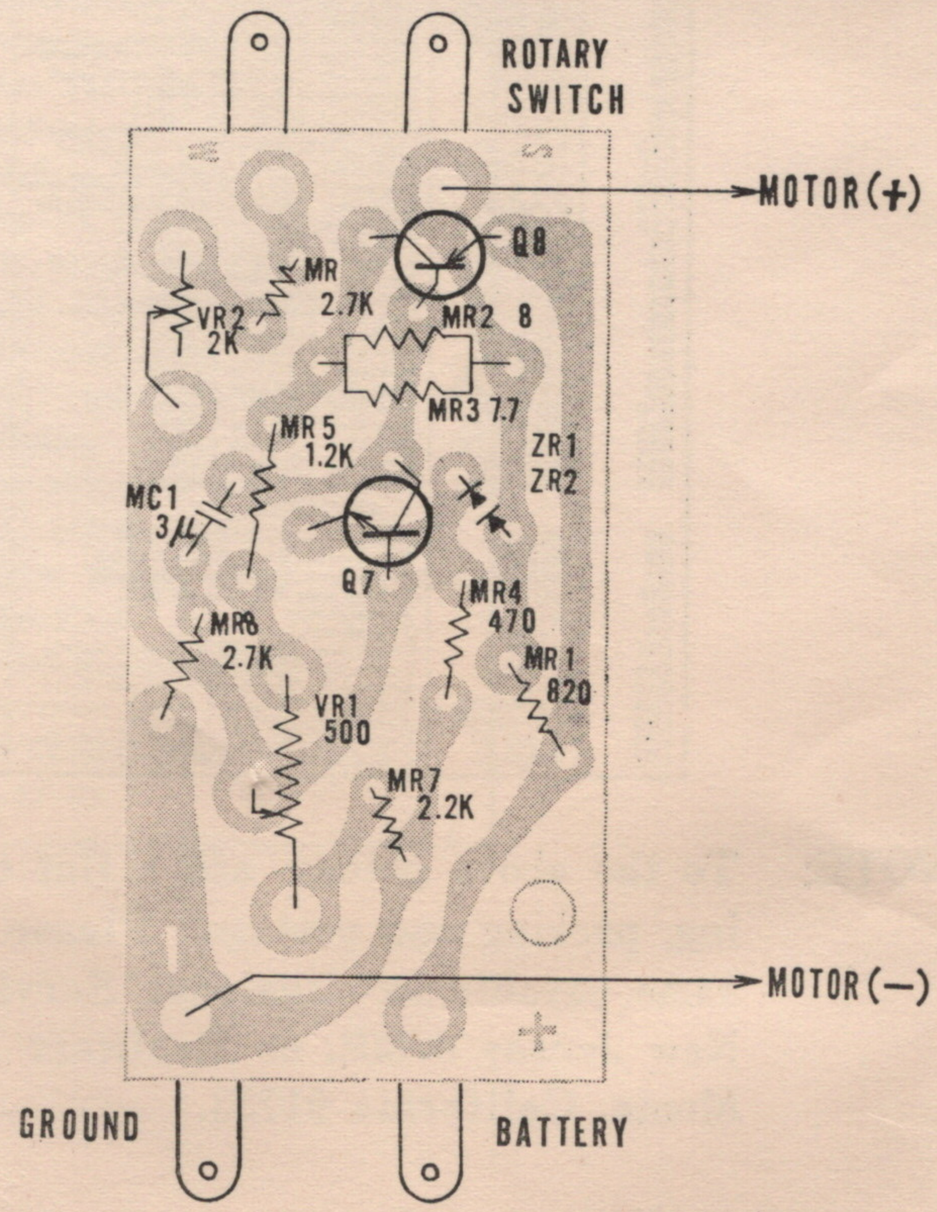


ELECTRONIC GOVERNOR
EXPLODED VIEW



NO	Desciption	QTY
1	Panel Board	1
2	Pick-up Assy	1
3	Polystrene Washer	2
4	Coil Spring ..	1
5	„E" Type Washer	1
6	Switch lever	1
7	3*X 6 m/m Screw	1
8	Arm Rest	1
9	Coil Spring	1
10	Rest Screw	1
11	Motor Assy	1
12	3* Lock Washer	4
13	3* Nut	4
14	3*X10 m/m Screw	4
15	3* Washer (Fe)	4

ELECTRONIC GOVERNOR
PRINTED BOARD BOTTOM VIEW



TROUBLE SHOOTING CHART

SYMPTOM	CAUSE	REMEDY
Band switch set in radio position, but radio is not working. Phono O.K.	1. Band switch defective. 2. C12-2mf or C9-30mf, electrolytic capacitor short circuit. 3. Q1 or Q2 does not function.	1. Replace band switch. 2. Replace capacitor C12-2mf or C9-30mf. 3. Check circuit of Q1 or Q2.
Radio and phono do not work.	1. Battery power is low. 2. On/Off switch is defective. 3. Short electrolytic capacitors C20-200mf or C16-300mf or C13-100mf.	1. Replace batteries. 2. Replace volume control and on/off switch. 3. Replace C20-200mf or C16-300mf or C13-100mf capacitors.
Radio noisy in tuning.	1. Shorting plates in tuning capacitor.. 2. Antenna lead open or it makes intermittent contact.	1. Replace tuning capacitor. 2. Replace Antenna.
Radio sensitivity is low.	1. Tuning capacitor, capacitance is low. 2. Alignment is poor. 3. Battery power is low.	1. Replace tuning capacitor. 2. Realign radio. 3. Replace batteries.
Radio sound is distorted on strong station signal.	1. AGC circuit does not function C9-30mf electrolytic capacitor is short. 2. Defective Q2	1. Replace C9-30mf Capacitor. 2. Replace Q2.
Sound from speaker, but turntable does not turn.	1. Rest switch does not make contact. 2. Rest switch lever is not sitting properly. 3. Band switch defective. 4. Open motor. 5. 0.7 or 0.8 open circuit.	1. Adjust rest switch. 2. Adjust rest switch lever and tighten screw. 3. Replace band switch. 4. Replace motor. 5. Replace Q7 or Q8.
Turntable turns, but weak or no sound. Radio O.K.	1. Open circuit, electrolytic capacitors C5-.5mf or C10-2mf. 2. Phono cartridge defective.	1. Replace capacitors, C5-.5mf or C10-2mf. 2. Replace cartridge.
Howling in phono	1. Cartridge power too strong.	1. Connect a resistor in series with R8 330K in value from 220K to 560K or reverse cartridge + and — wire connection.
Turntable turns slow	1. Battery power is low. 2. Speed adjustment incorrect. 3. Band switch not making good contact.	1. Replace batteries. 2. Adjust speed controls VR1 and VR2 for correct speed, using strobe disc. 3. Replace band switch.
Distorted soun in both radio and phono	1. Battery power is low. 2. Speaker voice coil touches the magnet. 3. One side of secondary of input transformer or one side of output transformer disconnected. 4. Power transistors are defective. 5. Bias of transistor is not proper.	1. Replace batteries. 2. Replace speaker. 3. Replace input or output transformer. 4. Replace transistors. 5. Check voltage and replace defective transistor.

MOTOR SPEED ADJUSTMENT

Equipment Required

1. DC power source 6V, 100mA or four new "D" size batteries.
2. Strobe disc and light.
3. Small insulated screw driver.
4. Testing record (used as load).

Procedure

1. Remove bottom and top covers.
2. Put a record and strobe disc on the turntable and put pick up arm on the record, then turn on/off switch to on position.
3. Radiate strobe light on strobe disc.
4. Turn the band switch to 33-1/3 and adjust VR1 marked 33 for correct speed.
   To increase speed, turn counter-clock-wise to decrease speed turn clockwise.
5. Turn the band switch to 45 and adjust VR2, marked 45 for correct speed.
   Adjust in the same manner as for 33.

   NOTE: Each range is independent from each other.
6. If there is any hunting (momentary speed variation) adjust VR3, balance control until hunting stops, and readjust VR1 and VR2 for correct speed.

PARTS LIST

Ref. No.	Part No.	Description	Price
		RADIO TUNER	¢
Q1	2SA201	Transistor Converter	55
Q2	2SA202	Transistor IF-1st Amp.	55
Q3	2SA202	Transistor IF-2nd Amp.	55
CR1	1S426	G. Diode Detector	20
T1	A2300080	AM OSC Coil (Red Core)	30
T2	A2300090	AM I.F.T.-A (Yellow Core)	40
T3	A2300100	AM I.F.T.-B (White Core)	40
T4	A2300110	AM I.F.T.-C (Black Core)	40
ANT	A1300052	Ferrite Antenna Coil	70
VC1.2	A8300060	Variable Capacitor	100
CN1	CK-7(F)	Capacitor 7mmfd. Ceramic	05
CN2	CK-6(F)	Capacitor 6mmfd. Ceramic	05
C1	CK-502(M)	Capacitor 0.005mfd. Ceramic	05
C2	CK-502(M)	Capacitor 0.005mfd. Ceramic	05
C3	CK-103(P)	Capacitor 0.01mfd. Ceramic	05
C4	CK-103(P)	Capacitor 0.01mfd. Ceramic	05
C5	V-0.5-6	Capacitor 0.5mfd. 6WV Electrolytic	20
C6	V-30-6	Capacitor 30mfd. 6WV Electrolytic	20
C7	CK-103(P)	Capacitor 0.01mfd. Ceramic	05
C8	CK-103(P)	Capacitor 0.01mfd. Ceramic	05
C9	V-30-6	Capacitor 30mfd. 6WV Electrolytic	20
C10	V-2-6	Capacitor 2mfd. 6WV Electrolytic	20
C11	CK-103(P)	Capacitor 0.01mfd. Ceramic	05
C12	V-2-6	Capacitor 2mfd. 6WV Electrolytic	20
C13	V-100-6	Capacitor 100mfd. 6WV Electrolytic	25
C14	CK-103(P)	Capacitor 0.01mfd. Ceramic	05
R1	RD¼-33K	Resistor 33Kohm Carbon	05
R2	RD¼-4.7K	Resistor 4.7Kohm Carbon	05
R3	RD¼-2.2K	Resistor 2.2Kohm Carbon	05
R4	RD¼-47K	Resistor 47Kohm Carbon	05
R5	RD¼-560	Resistor 560Kohm Carbon	05
R6	RD¼-56K	Resistor 56Kohm Carbon	05
R7	RD¼-10K	Resistor 10Kohm Carbon	05
R8	RD¼-330K	Resistor 330Kohm Carbon	05
R9	RD¼-3.9K	Resistor 3.9Kohm Carbon	05
R10	RD¼-1K	Resistor 1Kohm Carbon	05
R11	RD¼-2.2K	Resistor 2.2Kohm Carbon	05
R12	RD¼-4.7K	Resistor 4.7Kohm Carbon	05
R13	RD¼-1K	Resistor 1Kohm Carbon	05
R15	RD¼-330	Resistor 330ohm Carbon	05
		AMPLIFIER	
Q5	2SB186	Transistor (PNP) Audio Drive	50
Q6	2SB187	Transistor (PNP) Audio Output	50
Q7	2SB187	Transistor (PNP) Audio Output	50
TH	SDT20	Thermistor 250 ohm at 25℃	10
T5	Input	Transformer	40
T6	Output	Transformer	40
C15	V-3-6	Capacitor 3mfd. 6WV Electrolytic	20
C16	V-300-6	Capacitor 300mfd. 6WV Electrolytic	25
C17	V-30-6	Capacitor 30mfd. 6WV Electrolytic	20
C18	CK-103(K)	Capacitor 0.01mfd. Ceramic	05
C19	CK-103(K)	Capacitor 0.01mfd. Ceramic	05
C20	V-200-10	Capacitor 200mfd. 10WV Electrolytic	25
C21	V-200-10	Capacitor 200mfd. 10WV Electrolytic	25

Ref. No.	Part No.	Description	Price
R16	RD¼-22K	Resistor 22Kohm Carbon	¢ 05
R17	RD¼-5.6K	Resistor 5.6Kohm Carbon	05
R18	RD¼-560	Resistor 560Kohm Carbon	05
R19	RD¼-220	Resistor 220Kohm Carbon	05
R20	RD¼-330	Resistor 330Kohm Carbon	05
R21	RD¼-4.7K	Resistor 4.7Kohm Carbon	05
R22	RD¼-2.2	Resistor 2.2Kohm Carbon	05
R23	RD¼-120K	Resistor 120Kohm Carbon	05
R24	RD¼-3.3	Resistor 3.3Kohm Carbon	05
		ELECTRONIC GOVERNOR	
M	B3301500	Motor Assembly	800
Q7	2SC537	Transistor (NPN)	70
Q8	2SB324	Transistor (PNP)	100
ZR1	1S1210	Diode	20
ZR2	1S1212	Diode	20
MC1	V-3-10	Capacitor 3mfd. 10wv. Electrolytic	10
MR1	RD¼-820	Resistor 820 ohm Carbon	05
MR2	RC½-18	Resistor 18 ohm Solid	05
MR3	7.7	Resistor 7.7 ohm Wire Wound	05
MR4	RD¼-470	Resistor 470 ohm Carbon	05
MR5	RD¼-1.2K	Resistor 1.2K ohm Carbon	05
MR6	RD¼-2.7K	Resistor 2.7K ohm Carbon	05
MR7	RD¼-2.2K	Resistor 2.2K ohm Carbon	05
MR8	RD¼-2.7K	Resistor 2.7K ohm Carbon	05
VR1		Trimmer Resistor 500 ohm (B)	45
VR2		Trimmer Resistor 2K ohm (B)	45
S1-4	A6300292	Rotary Switch	75
SP	A5300222	3½" Speaker 8 ohm	150
P.U.	A5300170	Ceramic Pick Up Assembly	220
R14	A7300130	On/Off Variable Resistor 5K ohm A	60
R.SW	A6400160	Rest Switch Assembly	50
A.J.	A9400490	Adapter Jack Assembly	70
	B4400371	Battery Spring	10
	B1400900	Autenna Holder	15
	D 2301740	Strap	120
	C2400450	Decoration Screw	15
	C1400811	Name Plate (Knob)	15
	D 1100151	Panel Board	180
	D 1100041	Back Side	100
	D 1200051	Top Cover	100
	D 5400411	Battery Cover	60
	D3400850	Tuning Knob	25
	D6400870	Knob	25
	D7400130	Turntable Sheet	50
	C1400340	45 Adapter	40
	C1400330	45 Spin Plate	10
	C1400860	33 Spin Plate	10
	C1400225	Top Cover Plate	15
	C1400890	Dial Plate	15
		Knob Plate	15

NOTE: To the above prices, add a flat charge of $1.00 per order to cover handling, packing and postage. Please enclose your check with order and make same payable to: Realeast Service Corp., 34 Exchange Place, Jersey City, New Jersey 07302, or Realwest Service Corp., 10823 East Rush Street, El Monte, California 91733.

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